

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)


Applicant's or agent's file reference MR/38023		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/02771	International filing date (day/month/year) 27.06.2003	Priority date (day/month/year) 28.06.2002	
International Patent Classification (IPC) or both national classification and IPC E21B21/00			
Applicant ALPHA THAMES LTD			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 26.01.2004	Date of completion of this report 25.10.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer van Berlo, A Telephone No. +31 70 340-3535



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 03/02771**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-6 as originally filed

Claims, Numbers

1-9 filed with telefax on 24.09.2004

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The following documents are referred to in this communication:
D1: EP-A-0 201 263 (MOBIL NORTH SEA LTD) 12 Nov. 1986 (1986-11-12)
D2: WO 01/87453 A (TVEITEN MAGNAR ;KELLOGG BROWN & ROOT INC (US)) 22 Nov. 2001 (2001-11-22)

2. The document D2, which is considered to be the closest prior art, discloses in particular in page 4 line 2-5, page 8 line 18-20, page 9 line 17 to page 10 line 8 and figures 1-5 (the references in parentheses applying to this document):

A system (100) for removing particulates from water, comprising separating means (130) for removing particulates from water, and pumping means (144) downstream from the separating means for drawing water upstream of the separating means into the separating means, characterised in that the separating means comprises dynamic separating means comprising a hydrocyclone (page 4, line 3) and the system further includes means (133) for collecting particulates separated from said water by the dynamic separating means, means (136) for removing collected particulates from the particulate collecting means.

The system of D2 differs from the subject-matter of claim 1 by the fact that

- a) claim 1 is aimed at an underwater hydrocarbon reservoir water injection system rather than a system for the disposal of drilling solids,
- b) in claim 1 the system draws in surrounding water, which is not the case in D2,
- c) the system of claim 1 is incorporated into a retrievable module for use with a modular seabed processing system,
- d) the system of claim 1 contains means for directing at least some of the at least substantially particulate free water from the dynamic separating means to the particulate removal means to enable the particulate removal means (7,32) to remove collected particulates and eject them into water surrounding the module.

- 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).
Aspect a) and b), both part of the preamble of the independent system claim are known in the art, see for example D1.
Aspect c), i.e. incorporation into a retrievable module is considered to be trivial to

the skilled man in the art.

The remaining problem to be solved by the present invention may therefore be regarded as:

Removing collected particulates (page 2, line 29 to page 3, line 2)

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

By directing some particulate free water from the dynamic separating means to the particulate removal means to eject the collected particulates into surrounding water, the power available from the dynamic separating means is used to remove collected particulates, thereby avoiding the need of a separate system to remove collected particulates.

- 2.3 Claims 2-7 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
- 2.4 Since the subject-matter of independent method claim 8 corresponds to the subject-matter of claim 1, the same reasoning as given for claim 1 will apply *mutatis mutandis*. Therefore claim 8 also meets the requirements of the PCT in respect of novelty and inventive step (Article 33(2) and (3) PCT).
- 2.5 Claim 9 is dependent on claim 8 and as such also meets the requirements of the PCT with respect to novelty and inventive step.

OTHER REMARKS

- No documents reflecting the prior art, such as D1 and D2, are identified in the description (Rule 5.1(a)(ii) PCT).